



# Introducing... How To Effectively Recover Free Product At Leaking Underground Storage Tank Sites

## A Guide For State Regulators

### Purpose

The U.S. Environmental Protection Agency (EPA) has developed a guide to help underground storage tank regulators understand the portion of an underground storage tank corrective action plan that proposes free product recovery technologies. *How To Effectively Recover Free Product At Leaking Underground Storage Tank Sites: A Guide For State Regulators* (510-R-96-001) focuses on appropriate technology use, taking into consideration site-specific conditions. The *Guide* is designed to answer three basic questions:

- Is free product recovery necessary?
- Has an appropriate method been proposed for free product recovery?
- Does the free product recovery plan provide a technically sound approach to remediating the site?

## Background

Leaking underground storage tanks may result in a subsurface accumulation of a separate phase liquid that will flow into wells or excavations. Confirmation of a release from an underground storage tank that is regulated by U.S. EPA Subtitle I initiates the corrective action process. For sites where free product is present, regulators will need to:

- Step 1. Review the free product recovery plans.
- Step 2. Evaluate the need for free product recovery.
- Step 3. Evaluate the remedial objectives of the site.
- Step 4. Evaluate the design of the free product recovery system.
- Step 5. Evaluate the operation, maintenance, and monitoring approach.

## Audience

EPA has distributed copies of this *Guide* to its regional offices and to states and their regional offices in order to reach every state regulator who reviews corrective action plans. Consultants, engineers, lenders, public health professionals, environmental education centers, and others involved in the cleanup or remediation of a leaking underground storage tank site may also be interested in this *Guide*.

## Organization

The **Guide** is organized into five chapters.

- I. *Introduction* provides an overview of the entire manual.
- II. *The Corrective Action Process* discusses how the free product recovery actions fit into the overall corrective action process.
- III. *Behavior Of Hydrocarbons In The Subsurface* discusses the relevant properties of hydrocarbons and geologic media for free product recovery.
- IV. *Methods For Evaluating Recoverability Of Free Product* discusses the methods used to estimate the extent and volume of free product.
- V. *Hydrocarbon Recovery Systems/Equipment* describes free product recovery technologies, mechanical components, operation, and monitoring requirements.

The discussions include calculations, figures, tables, flow charts, and a list of selected key references. A glossary of relevant terms and a list of references cited in each chapter appear at the end of the **Guide**.

## Ordering Information

This **Guide** is available for \$17.00 from the U.S. Government Printing Office (GPO), Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Order stock number 055-000-00553-2. An order form is included in this leaflet.

If you have any questions about this document, please call EPA's RCRA/Superfund Hotline. The Hotline is open Monday through Friday from 8:30 a.m. through 7:30 p.m. EST. The toll-free number is 800 424-9346; for the hearing impaired, the number is TDD 800 553-7672.

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